

CHANGING THE U.S. NATIONAL AND DEFENSE STRATEGIES AND OTHER INITIATIVES TO COMBAT COMPETITIVE INTELLIGENCE OPERATIONS AGAINST THE U.S.

**A MONOGRAPH
BY
Colonel Joseph A. Bolick
Military Intelligence**



**School of Advanced Military Studies
United States Army Command and General Staff
College
Fort Leavenworth, Kansas**

Second Term AY 97-98

Approved for Public Release Distribution is Unlimited

DTIC QUALITY INSPECTED 4

19981207 070

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE		3. REPORT TYPE AND DATES COVERED MONOGRAPH
4. TITLE AND SUBTITLE <i>CHANGING THE US NATIONAL AND DEFENSE STRATEGIES AND OTHER INITIATIVES TO COMBAT COMPETITIVE INTELLIGENCE OPERATIONS AGAINST THE US.</i>			5. FUNDING NUMBERS	
6. AUTHOR(S) <i>COLONEL Joseph A. Bolick</i>				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) School of Advanced Military Studies Command and General Staff College Fort Leavenworth, Kansas 66027			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Command and General Staff College Fort Leavenworth, Kansas 66027			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE DISTRIBUTION UNLIMITED.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) <i>See attached</i>				
14. SUBJECT TERMS <i>US National and Defense Strategies Competitive Intelligence Economic Intelligence</i>			15. NUMBER OF PAGES <i>58</i>	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNLIMITED	

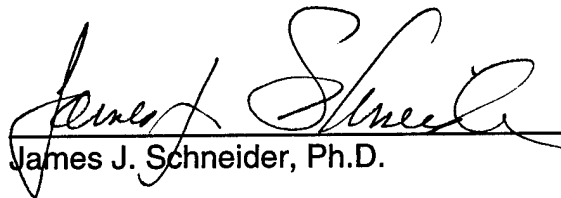
SCHOOL OF ADVANCED MILITARY STUDIES

MONOGRAPH APPROVAL

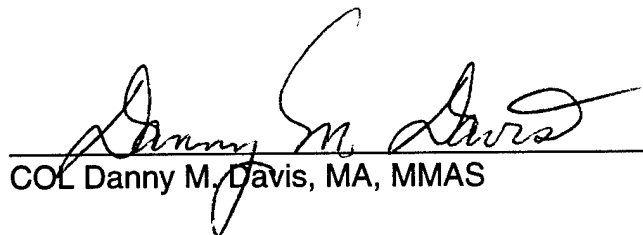
Colonel Joseph A. Bolick

Title of Monograph: *Changing the US National and Defense Strategies and Other
Initiatives to Combat Competitive Intelligence Operations
Against the US*

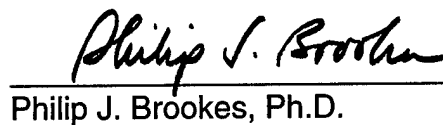
Approved by:


James J. Schneider, Ph.D.

Monograph Director


COL Danny M. Davis, MA, MMAS

Director, School of Advanced
Military Studies


Philip J. Brookes, Ph.D.

Director, Graduate Degree
Program

Accepted this 21st Day of May 1998

ABSTRACT

Changing the US National and Defense Strategies and other initiatives to combat competitive intelligence operations against the US

by Colonel Joseph A. Bolick, USA, 41 pages.

Changes in the world situation since the end of the cold war has resulted in national interest worldwide no longer concentrating on military might and competition. The focus has turned to economic prosperity, competitiveness and its resulting security. To compete in this new era, nation states are resorting to the use of their nation's intelligence organizations through competitive intelligence operations to improve their economic position. The loss to America's economic development and security is resulting in the erosion of not only our industrial base, but more importantly, our relative military superiority.

Since all DOD activities are a result of the US National and Defense Strategies, this monograph first examines these. It finds that they are focused on deterring and defeating threats based on military power equating to the ability of a nation state to influence by force the outcome of political choices. They fail to recognize the importance of economic power, the evolution to a global economy, and their resulting threats. The reasons why these changes have not been recognized is then discussed. The reasons included are the inability to think outside the normal military comfort zone; an inability to model and analysis the complex effects of economic power; focusing on partial or interim goals; and the inability to absorb and understand the far greater interdependency of accelerated change.

Economic power and its relationship to political power continues to be a basic reason for world wide conflict. To help understand this, the importance of economic power, and how it determines a nation state's military power first economic power is defined. Economic power is then evaluated from a theoretical and historical perspective. Considering today's environment of dynamic complexity controlled by a nations economy it is determined that economic power should be added to Clausewitz's trinity of Army, People and Government. Also discussed are the changing relationships among military capabilities, political actions and economic processes for nation states. It determined that in the future, economic process as a means will have a greater impact vice political and military actions and capabilities.

The cost to the US as a result of competitive intelligence operations in terms of our national security is enormous. To understand the scope of this problem, economic intelligence is defined; then the who, what and how is discussed. The final section recommends changes to the National and Defense Strategies, changes to the national security structure, development of Competitive Analysis Groups, competitive intelligence networks and greater involvement by government in protecting US business.

TABLE OF CONTENTS

	Page
I Introduction	1
II Threats, Strategies and Alternatives	3
III Economic Power	10
IV Cold War II	21
V Changes to National Strategies, DOD and Intelligence Support	32
Endnotes	41
Bibliography	48

I. Introduction

Joint Vision 2010, the Joint Staff concept for future joint operations, states the US military will face a challenging future in an era of dynamic change, constrained resources, potential new roles, and rapid technological advances. These factors require innovative thinking and new ways to shape change if we are to retain our global position of leadership as we respond to future challenges.¹ This is not new; each generation has had to face its own set of particular challenges and associated threats. This statement also assumes that the defense community is looking with some foresight to the true challenges of the future. History, as well as theories of planning and decision making, would suggest otherwise.

Concurrently, the consistent thread in the May 1997 Quadrennial Defense Review (QDR) developed by William S. Cohen, the Secretary of Defense, is that we are in a period of strategic opportunity with little threat of war.² This idea is prevalent not just in the defense community. It is professed by politicians, members of the press and Americans from many professions. Nor is this idea new; historically, most Americans think that war is an aberration, an unusual occurrence representing an interruption in the peace that is the normal condition. A review of the past 200 years of America's involvement in wars does not support this. The United States has fought seven major wars (the Revolution, the Civil War, World Wars I and II, Korea, Vietnam and Desert Storm), three minor wars (the War of 1812, the Mexican War, and the war with Spain in 1889), as well as numerous Indian campaigns, a Mexican intervention in 1916 and skirmishes from the Barbary pirates to modern day conflicts in Grenada, Panama and most recently in Bosnia.³ The American ethos is that we are a pacific people.⁴ This combined with our ahistorical nature results in

an inability to understand the consistency of these past conflicts, and questions if we are truly in a period of strategic opportunity, or are only unable to recognize less obvious threats or other forms of war. This inability to recognize less than the most obvious problems causes our planning for future conflicts to be flawed.⁵

The end of the cold war, the dissolution of the Warsaw Pact and former Soviet Union, the fall of the Berlin Wall and East-European communism has resulted in worldwide national interest no longer concentrating on military might and competition. The focus has turned to economic prosperity, competitiveness and its consequent security. To compete in this new era, nation states are resorting to the use of their national intelligence organizations through competitive intelligence operations to improve their economic position. The loss to America's economic development and security is resulting in the erosion of not only our industrial and economic base, but more importantly, our relative military superiority. Our allies and adversaries are waging Cold War II, an economic war, against the US. The US national security and defense strategies do not recognize this threat and are not responding to it.

This monograph will examine our national security and defense strategies and threats focusing on why the Department of Defense (DOD) has failed to identify the importance of economic power. It will then define and discuss the importance of economic power in relationship to national and military power. It will then discuss the loss to US economic and military power through economic espionage and how it could effect our national and military security. Finally, it will conclude with recommended changes in our national security and defense strategies and suggest several initiatives to counter foreign competitive intelligence operations.

The development of our national strategy followed a path that led from threat to strategy. To examine the first question this monograph will provide a brief review of the QDR derived security environment and the national security and defense strategies. It will then discuss these and provide a possible rationale for why DOD has not considered the importance of economic power or threats from competitive intelligence operations.

II. Threats, Strategies and Alternatives

THE GLOBAL SECURITY ENVIRONMENT

The May 1997 QDR states the world remains a dangerous and highly uncertain place, and the US likely will face a number of significant challenges to its security between now and 2015. First, we will continue to confront a variety of regional dangers. Second, despite the best efforts of the international community, states find it increasingly difficult to control the flow of sensitive information and regulate the spread of advanced technologies that can have military or terrorist uses. Third, as the early years of the post-Cold War period portended, US interests will continue to be challenged by a variety of transnational dangers, and the lives of US citizens will often be placed at risk, directly and indirectly. Fourth, while we are dramatically safer than during the Cold War, the US homeland is not free from external threats. US dominance in the conventional military arena may encourage adversaries to use asymmetric means to attack our forces and interests overseas and Americans at home.⁶

Along with these projected trends there are a number of "wild card" scenarios that could seriously challenge US interest both at home and abroad. Such scenarios range from the unanticipated emergence of new technological threats, to the loss of US access to

critical facilities and lines of communication in key regions, to the takeover of friendly regimes by hostile parties.

The security environment between now and 2015 will also likely be marked by the absence of a “global peer competitor” able to challenge the US militarily around the world, as the Soviet Union did during the Cold War. Furthermore, it is likely that no regional power or coalition will amass sufficient conventional military strength in the next 10 to 15 years to defeat our armed forces, once the full military potential of the US is mobilized and deployed to the region of conflict. In the period beyond 2015, there is the possibility that a regional greatpower or global peer competitor may emerge. Russia and China are seen by some as having the potential to be such competitors, though their respective futures are quite uncertain.

Finally, it is important to note that this projection of the security environment rests on two fundamental assumptions: that the US will remain politically and militarily engaged in the world over the next 15 to 20 years, and that it will maintain military superiority over current and potential rivals.⁷

THE US NATIONAL SECURITY STRATEGY

The US has chosen a national security strategy that is consistent with our global interest-a national security strategy of engagement. While the US will retain the capability to act unilaterally it will also emphasizes coalition operations. To accomplish these objectives maintaining a strong military and the willingness to use it in defense of national and common interests is essential. These forces must be ready and versatile, capable of conducting a wide range of military activities and operations - from deterring and

defeating large-scale aggression, to participating in smaller-scale contingencies, to dealing with asymmetric threats like terrorism.

The primary purpose of US forces is to deter and defeat the threat of organized violence against the US and its interests. Decisions about whether and when to use military forces will be guided, first and foremost, by the US national interests at stake - be they vital, important, or humanitarian in nature - and by whether the costs and risks of a particular military involvement are commensurate with those interests.⁸

THE DEFENSE STRATEGY

In order to support this national security strategy, the US military and DOD must be able to help shape the international security environment in ways favorable to US interests. It must be able to respond to the full spectrum of crises when directed, and prepare now to meet the challenges of an uncertain future. These three elements - shaping, responding, and preparing - define the essence of US defense strategy between now and 2015.

Shaping the international environment includes promoting regional stability; preventing or reducing conflicts and threats; and deterring aggression and coercion. Responding to the full spectrum of crises includes deterring aggression and coercion in crisis; conducting smaller-scale contingency (SSC) operations; and fighting and winning major theater wars (MTW). To prepare for the future it is imperative that the US maintain its military superiority in the face of evolving, as well as discontinuous threats and challenges. These discontinuous threats, which may target our conventional military capabilities, also may focus on the other elements of economic and political power. These threats include the use of special operations forces, biological and chemical weapons,

service to service missiles and other low cost capabilities to offset the US recognized technological superiority. We must achieve a new level of proficiency in our ability to conduct joint and combined operations. We must pursue a focused modernization effort, exploit the revolution in military and business affairs and develop insurance policies against future threats, such as early emergence of a regional greatpower or a "wild card" scenario.⁹

CHANGING THREATS, STRATEGIES AND ALTERNATIVES

National security policy may be thought of as existing in three forms. Military security policy is the program of activities designed to minimize or neutralize efforts to weaken or destroy the nation by armed forces operating outside its institutional and territorial confines. Internal security policy deals with the threat of subversion--the effort to weaken or destroy the state by forces operating within its territorial and institutional confines. Situational security policy is concerned with the threat of erosion resulting from long-term changes in social, economic, demographic and political conditions tending to reduce the relative power of the state.¹⁰ Historically, DOD has focused only on the first of these three, but it has in exceptional cases been tasked to address the other two if significant threats are perceived.

The current US national and defense strategies are focused on deterring and defeating the threat of organized violence and shaping the international security environment in ways favorable to US interest. The underlying basis of this strategy is that military power equates to the ability to influence, by force if necessary, the outcome of world events. This model has been used for the past two hundred plus years to provide the necessary security to ensure US survival, and it has also in no small measure assisted in

making the US a world super power. However, what is significantly different today is that economic rather than military power has in large measure become the yardstick by which world influence and national viability are measured.¹¹ Our current US national and defense strategies addresses only the first of the three above mentioned programs of activities. They do not consider using the DOD to counter the threats to internal or situational security. The current importance of economic power, the evolution to a global economy, and their resulting threats indicate a need for a change.

There are numerous reasons for this reluctance to change and it will not be easy to achieve. It will require thinking outside the normal military comfort zone. This inability to project outside the force-against-force battle concept is exemplified by the Force XXI threat model. This threat model, which is being used to validate the force being developed for the 21st Century, begins to address the idea in a section called "new dangers" where it acknowledges the dangers of a weak economy being important. It, however, quickly reverts to the obvious problem and the one we already know how to solve. It professes a new approach which deviates from the post-Cold War model, which was often criticized as not accounting for regional threats, weapons substitution, technology on demand, economics and asymmetry to a new threat spectrum model.

This new model advocates a holistic approach which uses a tracking methodology for threat forces as they change, longer term looks (2005, 2010 and 2015) at developing forces, non-nation forces and "rest of the world" considerations. The implications drawn from this new model is that integration on the battlefield will be harder to achieve than incorporation of technology into the force. The more complex forces we are now developing, due to their technology will be more fragile in relationship to our current

forces. The shifting nature of geopolitical relationships require us to focus as much energy on the capabilities of our current friends as we do our acknowledged foes. Finally, mechanized combat will not be the only way war will be waged in the future.¹² In the end, though, it fails to realize that the threats facing today's forces will be in many ways asymmetric and that we must think outside our comfort zone.

The second problem with expanding the scope of DOD's look at future economic threats and their importance is their inability to model and analyze complex problems. There are really no surprises here, as the current modeling and analysis used to develop the US national and defense strategies, fits the same investigative mold as DOD's current examination of the Gulf War health problem. Concerning DOD's ability to investigate complex problems and develop solutions, Representative Christopher Shays of Connecticut stated, "their investigations are irreparably flawed and have been plagued by arrogant incuriosity and a pervasive myopia."¹³ One underlying aspect of all forces development and their sustainment today, not considered or stated in the US national and defense strategies, is that the economy of the nation state will determine its final military capability.

This inability to think outside our comfort zone or knowledge base is not uncommon. Dietrich Dorner in The Logic of Failure points out that we often choose the most obvious problem--or the ones that we already know how to solve. Not only do we then almost inevitably end up concentrating on the wrong problems but we neglect long-term considerations, especially when partial or interim goals capture our attention and displace primary goals. Realizing we are attacking the wrong problems only makes us more uncertain. How do we get out of this bind? We isolate ourselves in a task we feel

competent, preferably one that offers both challenges and the gratification of some success.¹⁴ DOD is comfortable with the use of its capabilities to do force-on-force engagements. As a military power, we have demonstrated that we can militarily defeat any other force in the world. Knowing this and considering the importance of economic power today, will our adversaries choose a direct military attack or consider an indirect approach against our economic power?

A final consideration is that for the first time in history, humankind has the capacity to create far more information than anyone can absorb, to foster far greater interdependency than anyone can manage, and to accelerate change far faster than anyone's ability to keep pace.¹⁵ However, this has not resulted in a significant change to the national and defense strategies. Instead we see reductive hypotheses which provide a simplistic explanation for what goes on in the world. The developers of these strategies have recognized what they believe are the key issues and are reluctant to abandon that knowledge. This would require them to base their strategy on economic and other elements of national power made up of interacting variables linked together in no immediately obvious hierarchy which are difficult to measure.¹⁶ Further compounding this problem is that most organizations are dominated by linear thinking, not systems thinking. The dominance of the "event mentality" tells people that the name of the game is reacting to change, not generating change. An event orientation will eventually drive out real vision.¹⁷ DOD knows how to defeat any military force in the world. As the world changes, so must this simplistic view change. DOD must move away from its linear approach to warfare and understand the importance of systems integration in economic power.

To overcome this, both the NCA and DOD must do as former Army Chief of Staff, Gordon R. Sullivan, recommends when faced with complex problems and examine them using what he simplistically calls a leader's reconnaissance. The NCA and DOD need to reflect and determine what is happening, what is not happening and what they can do to influence the action.¹⁸ The question now becomes rather than what military hardware does another nation have, to how are the complexity of recent changes effecting DOD's current strategies? What are the other threats we must face in the next 15 to 20 years beyond the grand battle myopia? Should DOD be concerned with the economic aspects of warfare? Is it really important to our national security? What should DOD be doing to influence the action? The next section will answer some of these questions by defining economic power and discussing how it and future military systems are influenced by world events.

III. Economic Power

To understand the importance of economic power and how it determines a nation states military power several steps are necessary. First, we must define it, then evaluate it from a theoretical and historical perspective. Second, determine how it is effected by and interacts with the complexity of today's world. Finally, revisit the theoretical realm within today's complex environment.

Economic power and its relationship to political power continue to be a basic reason for worldwide conflict. The reasons for this are, first, it has always been possible to convert economic power into political power or political power into economic power. Few held one without quickly gaining the other. Second, government has been actively used to alter market outcomes and generate a more equal distribution of income than

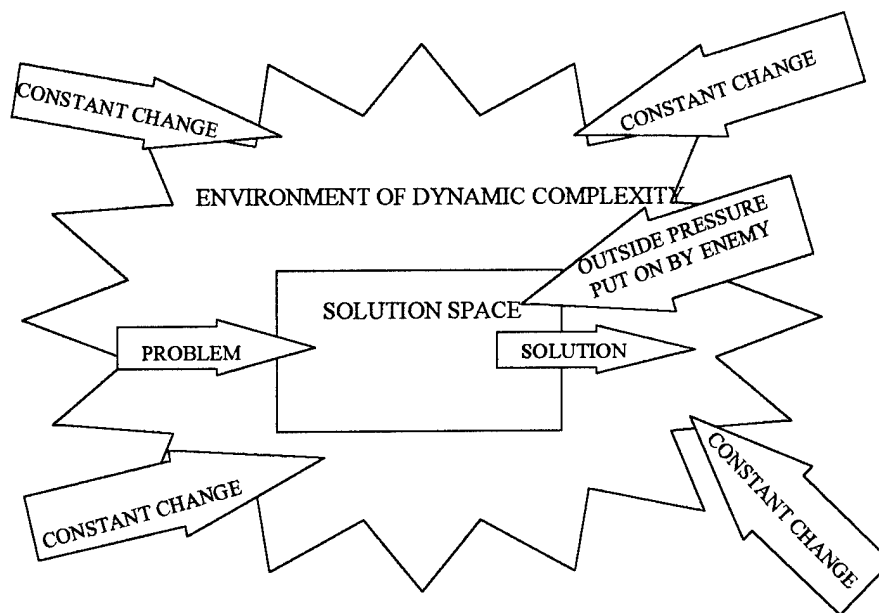
would have been produced in the market if it had been left alone. Those who saw themselves losing out in the market economy saw government as a positive force working to keep them included when it came to harvesting the economic fruits of capitalism.¹⁹

Considering this, we must examine the relationships between economic, military and diplomatic power as elements of future war. Today, seven years after the prospect of a Soviet blitzkrieg has crumbled with the same finality as the fall of the Berlin Wall, we seem strangely content to remain frozen in time. As the post-industrial age begins to give way to the information age we still find comfort in a vision of future warfare that continues to emphasize the capacity to kill with greater and greater efficiency. Perhaps in our continued rush to embrace precision warfare we might find ourselves embracing a method of combat that grows increasingly obsolete and more irrelevant with each passing day.²⁰

There is little doubt concerning the validity of the importance of understanding and being prepared to use combat to obtain a nation's political objectives. Clausewitz's comments on this subject are still as valid today as they were in the early part of the nineteenth century. In Chapter Two of On War he says, "Combat is the only effective force in war; its aim is to destroy the enemy's force as a means to a further end."²¹ He goes on to qualify this by saying, "That {combat} holds good even if no actual fighting occurs, because the outcome rests on the assumption that if it came to fighting, the enemy would be destroyed."²² However, he continues to qualify the idea of using combat by saying, "When we speak of destroying the enemy's forces we must emphasize that nothing obliges us to limit this idea to physical force."²³

Whether we use combat as the final solution to the political aims of war, or some other element of war, depends on a very complex set of variables. Evolution theory suggests we will continue to change or evolve how we fight. The nature of warfare, like other forms of collective, complex human behavior, changes slowly. Cycles of change in warfare are particularly difficult to comprehend and even more difficult to anticipate because, unlike endeavors in finance, medicine or law, active experience in war is infrequent. Because warfare cannot be practiced often, soldiers are obliged to rely on the laboratory of past experiences to gain vicarious experience in war.²⁴

In the past we evolved from the sword, to the rifle, to today's mechanized forces with its the tanks, airplanes and warships. Presently we are exploring the future of warfare as we begin to exploit technology and the use of space as a means to an end. To focus only on war using today's mechanized forces to achieve our political ends, rather than other types of warfare, is to continue to look to the past and limit our planning for the future. The art of evolution is the art of managing dynamic complexity.²⁵ The following diagram shows that all solutions to problems are affected by outside pressures within an environment of this dynamic complexity.



26

In the case of this monograph the solution we are seeking is: What type of military power should we use in the future? To obtain the solution we first must understand the environment, identify important changes and determine how they effect the outcome.

In our case the environment is the economic system in the post-Cold War as it shapes the development of military systems of the future.²⁷ There are many changes which are shaping this economic system. The three most important ones are the post-Cold War security environment, the end of communism and the emergence of a global economy. Other changes which also are effecting our environment, in a secondary way, are the shifting from physical power to an era of man-made brainpower industries and the demographics of the population of the world becoming larger, moving more and getting older.²⁸

As we try to ascertain what type of military power we should employ in the future, change as a result of the post-Cold War security environment play a key role. These changes can be grouped into the three main headings of systemic changes, changes in the distribution of power and changes in the relations among countries.

Systemic changes are changes in the structure of domestic and international politics. These include: the emergence of a truly global economy and of powerful transnational economic organizations; the electronic revolution in communications; the global movement towards democratic political systems and market economies; the declining importance and power of the nation-state for some purposes and the intensification of national and ethnic identities for others; the rise of international crime organizations; and the rise of international organizations and procedures to deal with almost every conceivable international issue. For the military perhaps the most important consequence of these systemic changes is the shift in the relevance and usefulness of different power resources, with military power declining and economic power increasing in importance.²⁹

Changes in the distribution of power in the international system include: the relative decline in American economic power after World War II; the rise of Japanese economic power; the unification of Germany and the consolidation of its position as the preeminent West European power; the rise of locally dominant powers in many Third World regions; the general diffusion of economic and military capabilities in the Third World; and the social mobilization of public in the Third World.³⁰ Most significant for this discussion is the collapse of Soviet power and its current economic weakness.

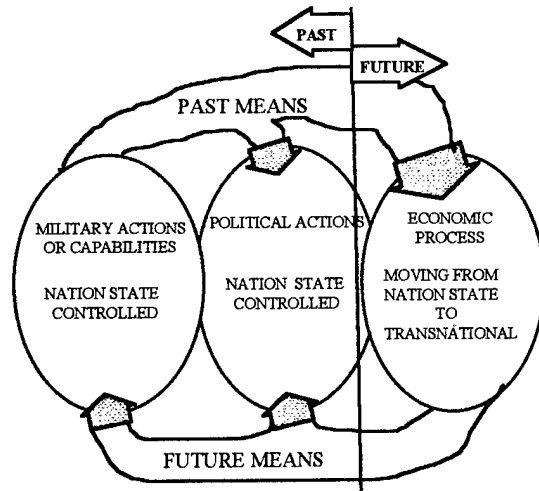
Changes in the relations among countries are extremely important to the future use of power. During the Cold War, the relations among key countries were relatively stable and clear. There were allies, antagonists and neutrals. In the post-Cold War world, relationships among countries are likely to be very different. American-Soviet relations have changed dramatically. So also have German-Soviet relations. Other countries have similarly moved to establish new relationships cutting across the old Cold War battle lines and more directly reflecting their own immediate interest. Overall the new world is without an overriding cleavage such as characterized the Cold War. It now has a welter of ethnic, national, religious, economic and cultural antagonisms.³¹ All of these changes have resulted in the military having to focus on the requirement to be able to respond to many non-traditional enemies and their asymmetric threats.

A subset of changes in relations among countries, the end of communism because of its importance, requires greater consideration. This event has resulted in a unique period where capitalism and democratic society, led by the US, has no viable competitors for the allegiance of the minds of their citizens. Militarily, there are no systematic or credible threats to the world's democracies. For much of the nineteenth and all of the twentieth centuries, capitalism faced-off against socialism on the inside and communism on the outside. But those ideologies now have no future. The military is struggling to justify its budget.³² All this is resulting in an economic system which some say is eclipsing the military system as the political weapon of choice.

The emergence of a global economy, a subset of systemic changes, also is having a significant effect on the US economy which determines our future military system. With communism dead, the threats that were instrumental in producing a global economy are

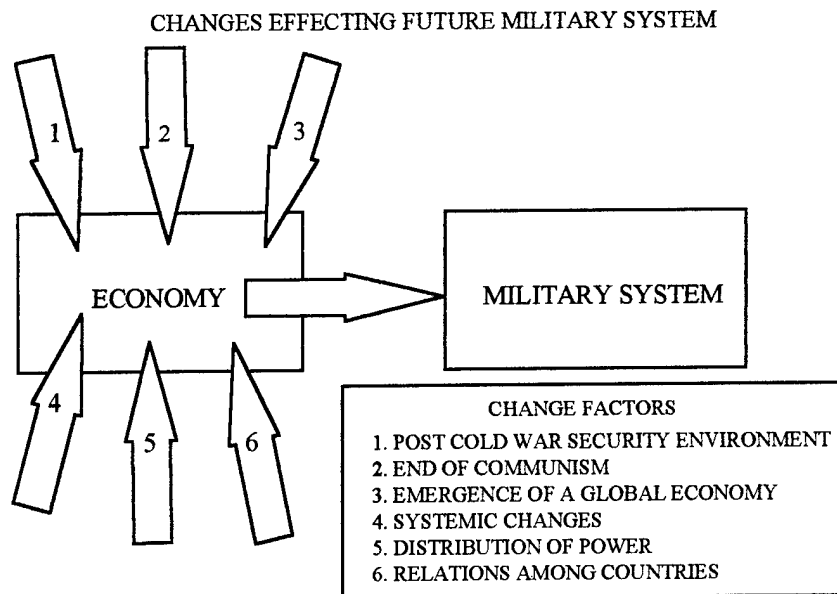
over. Whether a global economy would have been built without the presence of a communist threat can be debated, but that debate does not change today's reality that a global economy exists. A global economy now shapes everyone's view of the world and alters how each of us thinks. Everyone faces a new reality. Everyone is mutually interdependent and linked in very different patterns of supply and demand than might otherwise have existed. Powerful institutions (world banks, multinational firms, international institutions) are in place with a vested interest in maintaining themselves and their environment.³³ Using military power as a means, to obtain political objectives in a global economy, can result in a greater loss rather than gain due to the destruction of the nation's economic base.

The following diagram depicts the changing relationships among military capabilities, political actions and economic processes of nation states. In the past military capabilities were determined by nation states decisions. Today we see more and more the military capabilities being reduced as nations focus more on economic power. The use of military actions as a means to achieve a political end is not as valid today as in the past. The US government does not solely control its economic power. Rather, it shares economic power with the private sector. What has changed is that a nation state's economy is now controlled less by the nation states and more by multinational firms and international institutions. These firms and corporations are forming "non-state" centers of economic and political power that cross national and regional boundaries. In the past, a nation state could use its military power focused against another nation state to achieve a political end. Today it is becoming more and more difficult to destroy another nation state without destroying some of your own economic and political power.



Within the global economy, superior economic performance generates greater economic power: increased control over capital, facilities, markets and technology. In the US relations with other nations, Japan while experiencing some recent economic setbacks, is still our only peer economic competitor. The increases in Japanese economic power have produced reactions in the US similar to those produced during the Cold War by increases in Soviet military power. Public opinion polls depict a striking ambivalence towards Japan on the part of Americans. Polls indicate that 73% believe that “the greatest threat to American security is economic challenges posed by Japan”, and supported the shifting of resources from military purposes to domestic investments.³⁴

Returning to our first diagram, we can now narrow its focus making it a more useful tool.

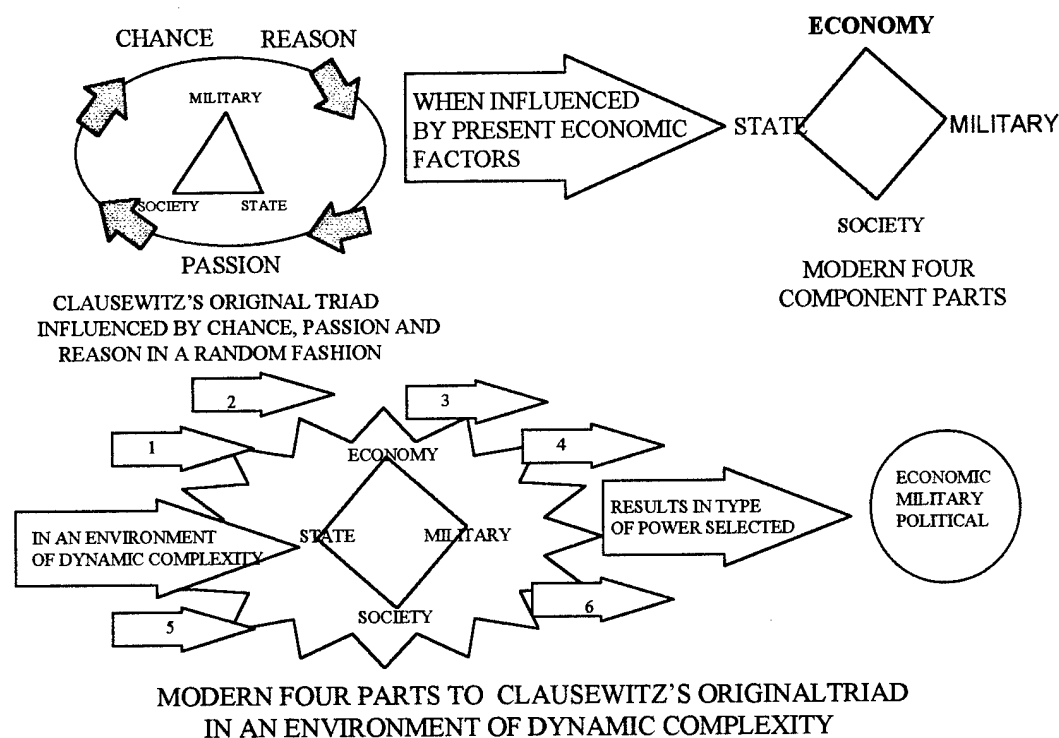


Looking theoretically at how factors of change influence the choice a particular type of power, Clausewitz's On War provides some insights. Clausewitz discusses the relationships between the many factors of his day which influenced the conduct of war. He states there are three major components which must be considered when conducting or planning for war. His three components are the Army, People and Government. This trinity is according to his theories significantly effected by the concepts of chance, passion and reason in a random manner. The government is effected by reason; while chance acts on the army; and passion influences how people respond to the situation.³⁵

These ideas have evolved so that in today's terms the current military, significantly effected by technology, equates to Clausewitz's army; the modern state equates to his government and the current society reinforced by the intellectual concept of ideologies equating to his people. Considering today's environment of dynamic complexity controlled

by a nations economy, we now must add economy as not only a fourth component but also consider its impacts on the other three.

Graphically this process looks like the following:



- KEY:**
1. Post cold war security environment
 2. End of communism
 3. Distribution of power
 4. Systemic change
 5. Relations among countries
 6. Global economy

Returning to the most significant event shaping our current political environment, the Soviet Union's loss of the Cold War, a close examination reveals that the war was won not by attacking one of Clausewitz's classic trinity but by the destruction of the Soviet economy. It can be argued that this destruction was the result of the weakness of the basic premise of communism. However, the reason why is often impossible to ascertain as

pointed out in complexity theory. What is important is that the war was won, when the significant conventional and nuclear military capability of the Soviet Union were negated by the destruction of their economy.

This is an example of B. H. Liddell Hart's strategy of the indirect approach. He states that the role of grand strategy-higher strategy- is to coordinate and direct all resources of a nation, or a band of nations, toward the attainment of the political object of the war- the goal defined by fundamental policy.³⁶ Continuing his line of reasoning he states, the perfection of strategy would be, therefore, to produce a decision without any serious fighting.³⁷ The US obtained its final political objective not by using its military power, but by a use a strategy of employing economic power.

Returning full circle to the importance of economic and military power, we see both are important. A nation without economic power can have little, if any, military power. A nation needs economic power to act as a foundation and to support its other spheres of national power. One can decry the continuing relevance of force, but one can deny it totally only at the risk of wishful thinking. Were the need to maintain a military force and a defense policy not universal, there would be nation-states in the world that did not possess armed forces. Some countries, such as Switzerland and Costa Rica, have traditionally maintained only reserve forces for self-defense or internal purposes, rather than having an army, but no state has been able to eschew forces altogether.³⁸ To put economic policy first is not to say that no geopolitical threats remain. They do, in Central and Eastern Europe, East Asia, and the Middle East-- not to mention state sponsored terrorism, nuclear proliferation, and the explosive mix of overpopulation and poverty

worldwide. Dealing with these problems will require adequate military muscle and, more than ever, cooperation among great powers.³⁹

An attack on the economic foundations of a nation-state results in either the reduction of the nation-state's ability to afford military forces or a reduction in its relative military superiority. As the next section will discuss, the US is under attack by many potential enemies and current allies. The extent of the damage being done will determine when a "global peer competitor" or an enemy using asymmetric means will be able to challenge the US militarily at home or around the world as the Soviet Union did during the Cold War.

IV. Cold War II

One of the base premises of this monograph is that other countries are conducting competitive intelligence operations against the US. Further, that these attacks are resulting in losses to US economic development and security resulting in the erosion of not only our industrial and economic bases, but more importantly, our relative military superiority. To understand these attacks this monograph will first define economic intelligence, discussing legal and illegal collection of information; second, it will look at who is conducting these attacks; third, how these attacks are conducted; fourth, what these attacks are focused on; and finally, what these attacks are costing the US in terms of our national security.

Economic intelligence includes foreign and domestic information. It is information that helps assess present and future capabilities of companies, competitors and national industries. It helps policy-makers measure risk by showing the current economic situation so they can develop a probable course of action. Economic intelligence includes what

commercial elements are actively involved in a national economy, what governmental institutions are available to the private sector, in what quantities and from what sources. Economic intelligence not only takes into consideration the foreign threat but also domestic intelligence needs.⁴⁰

Economic intelligence has two parts, open source and proprietary. The collection of this information is done using both by legal and illegal means. Intelligence collection using legal means to collect open source information is considered a proper function of the state--protecting the national interest and informing statecraft.⁴¹ In fact the preponderance of economic and commercial intelligence collection directed against the US is not illegal; it relies on these open sources or exploits carelessness by targeted companies. It is an integral part of the international business process. The Japanese effort is massive and ubiquitous, both in collection and analysis. Western European efforts are not as large in scope. But they are more focused, highly developed and very professional. In these countries, a close, informal public-private sector linkage greatly enhances the effectiveness and value of the intelligence process. By contrast, the relationship between US business and government is almost adversarial.⁴² Still, in the US, it is accepted that the CIA should analyze broad world trends, including those in economic and technology, and feed the results to US policy makers.⁴³

The collection of proprietary information and sharing with domestic producers is considered economic espionage.⁴⁴ The CIA uses a narrower definition of economic espionage "to include a government-directed or orchestrated clandestine effort to collect US economic secrets or proprietary information."⁴⁵ In legal terms the Economic Espionage Act of 1996, in Section 1831, makes unlawful the theft, appropriation, copying,

or knowing receipt, purchase or possession of any trade secret with the intent that it benefit any foreign government, instrumentality or agent. Section 1832 further addresses more traditional trade secret thefts making the theft, appropriation, copying, or knowing receipt, purchase or possession of any trade secret that is "related to or included in a product that is produced for in interstate or foreign commerce" with the intent to convert the trade sector as unlawful.⁴⁶

Most economic agents, both corporations and nation states, collect economic intelligence using legal means. Major corporations collect business intelligence to read industry trends and scout competitors. Many nations track global and regional economic trends and even technological breakthroughs to aid policy makers. However, a growing number of states have become very active in gathering intelligence on specific industries or even companies and sharing it with domestic producers. Economic espionage has become a popular tool as states try to supplement their companies' competitive advantage.⁴⁷

As discussed in the last section, the Cold War has relaxed the rigid structure of alliances that bound the Western powers. The discipline of facing a common threat has, to a certain extent, disintegrated along with the Soviet Union. As a result, countries across the political spectrum feel freer to pursue national advantages. In the new post-Cold War era, it is argued that we have entered a period governed by the dictum that countries have no friends-only interest.⁴⁸ FBI Director Louis J. Freech during recent Congressional testimony asked Congress to give the bureau greater legal authority to counter rampant and fast growing economic espionage against the US by both friendly nations and traditional adversaries. He warned that the intelligence services of at least twenty-three nations now make US industry a prime target of their espionage.⁴⁹

Nations which have been identified as conducting economic spying against the US includes France, Israel, Japan, Russia, China, Iran, South Korea, Germany, Cuba, Vietnam and North Korea.⁵⁰ Over the past 15 years, the FBI has chronicled numerous cases involving these nations. An FBI analysis of 173 nations found that 57 were covertly trying to obtain advanced technologies from US corporations. Altogether, 100 countries spent some public funds to acquire US technology. Former French Intelligence Director Pierre Marion stated, "In economics, we are competitors, not allies. America has the most technical information of relevance. It is easily accessible. So naturally your country will receive the most attention from the intelligence services."⁵¹

The above countries involvement in economic espionage are from FBI testimony to Congress, cases reported in the news or from governmental sources. Many victimized companies however are reluctant to reveal information that would further help quantify this problem. They do not want the opprobrium that might follow an admission that they had been duped or spied upon. Or legalities may dictate avoiding disclosure. Legations may be in progress or imminent, a settlement may have been sealed or contain terms prohibiting publicity, or a sensitive investigation may be in progress. The firm's officers may be afraid of shareholder suits claiming that management negligence permitted the espionage to succeed.⁵²

Many of the above countries have gotten publicity in the recent years for economic espionage. However, the biggest offenders are Pacific Rim countries, including China and Russia, according to US intelligence officials. They estimate that of the 3,000 Chinese diplomats and officials in the US and 1,600 from the Commonwealth of Independent States, some 40 percent are actually economic spies. The FBI is currently investigating

800 cases of economic espionage.⁵³ In the past three years the Department of Justice and Customs Services have prosecuted over 450 cases. Yet despite these successes, US officials estimate they are detecting only one in 12 cases of economic espionage.⁵⁴

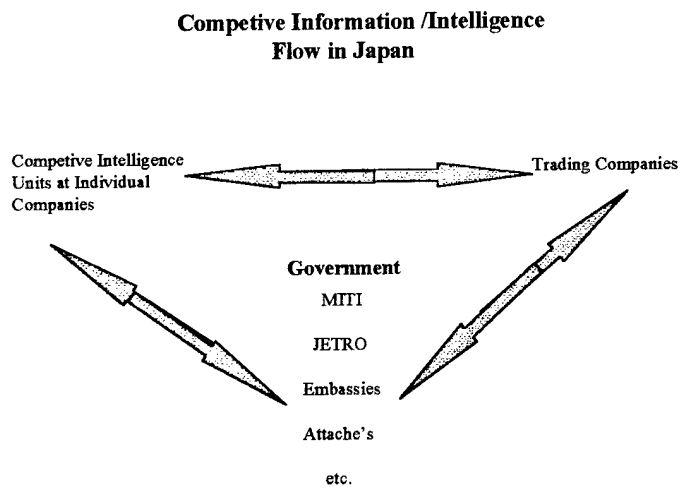
The legal collection of competitive intelligence to support business decisions with governmental involvement sets Japan apart from the rest of the world. The reasons for this are as much cultural as pragmatic. Japan absolutely and unbendingly believe in competitive intelligence as a strategic corporate tool to make the best decisions possible. How Americans feel and treat information compared to the Japanese is at the heart of the difference. There is a lot of lip service paid to the information age and how Americans embrace the idea of information and such conduits as the information superhighway. Unfortunately, it is often just talk. In Japanese, the word *joho* means two things: information and intelligence. To the Japanese information is worthwhile. It has value. In English, information does not become intelligence unless something is done to it.⁵⁵

To facilitate the flow of information, Japan has developed a quasi-governmental system unique to their culture. The foundation is a groups of individual companies, called *keiretsus*, which have united for the exchange and sharing of personnel, money, goods and information. At the heart of each keiretsu is a trading company. These trading companies and other individual companies collect and pass on information to each other.⁵⁶

However, this is only part of the collection picture. In Japan the Ministry of International Trade and Industry, MITI, is responsible for establishing governmental policies to promote industrial development. One of the main ways it helps Japan's industries succeed is through the collection and distribution of competitive intelligence. MITI uses the Japanese External Trade Organization, JETRO, to accomplish this function.

JETRO, which was formed in 1958, is today the only large scale, government-sponsored competitive intelligence agency in the world. In addition to these governmental organizations the media is extensively used to gather intelligence. Also Japanese businesses use personal contacts and observations by visitors sent to foreign factories, plants and facilities to collect intelligence for their companies.⁵⁷

Graphically the flow of information/intelligence in Japan looks like the following:



58

Japan has developed one of the most interwoven relationships between business and government. On a daily basis, each of the six typical trading company will collect 100,000 pieces of information from its 10,000 employees in about 180 offices worldwide. All this information is disseminated to those who can use it. It's an extraordinary worldwide system that boggles the mind of most Westerners, but to the Japanese it's just everyday business. In addition, each trading company spends about \$60 million annually

maintaining their information collection infrastructure.⁵⁹ In many cases this model is beginning to be used by other countries.

While the above Japanese legal collection system is well established and accepted, the practitioners of economic espionage seldom use only one method of collection. The end of the Cold War has also released thousands of spies and intelligence professionals into the job market. These intelligence operatives have kept their clandestine networks, and are showing up as business consultants. Intelligence people are entering the commercial sector at a time when opportunity for espionage and intelligence are increasing with the shift from military to economic competition.⁶⁰ The methods used have not changed, only the targets are now American companies that have a high level of naiveté about foreign intelligence-gathering capabilities.⁶¹ Business and foreign countries have concerted collection programs which combine both legal and illegal, traditional and innovative methods. The following examples illustrate some of the methods used to engage in economic espionage.

- A. Trusted persons inside a company or organization are used to provide proprietary or classified information.⁶²
- B. Some governments task foreign students to acquire information on a variety of economic and technical subjects. These students are later encouraged to seek employment with US firms to steal proprietary information.⁶³
- C. Foreign governments exploit non-governmental affiliated organizations, or create new ones, such as friendship societies, international exchanges organization, import-export companies and other entities.⁶⁴
- D. Foreign companies hire knowledgeable employees of competing US firms to do corresponding work to gain inside technical information.⁶⁵
- E. Well connected consultants, often former high-ranking US Government officials, are hired to write reports and lobby government officials.⁶⁶
- F. Moles are planted in US companies.⁶⁷
- G. Telecommunications are bugged.⁶⁸
- H. Money is offered for information.⁶⁹
- I. Microphones are planted in seats of aircraft and spies are used posing as passengers and flight attendants.⁷⁰
- J. Agents are assigned by foreign governments to spy on US firms.⁷¹
- K. Joint ventures are set up to gain access to key technology.⁷²

- L. Hotel registration cards are provided to local intelligence agencies, resulting in information in hotel safes and rooms being compromised.⁷³
- M. Spies accompany children, taking pictures and asking questions when schools or other organizations tour governmental or manufacturing facilities.⁷⁴
- N. Covert collection techniques as described in a 1994 classified US Government report.⁷⁵
- O. Theft of sensitive technology.⁷⁶
- P. DOD telecommunications systems are surreptitiously monitored.⁷⁷
- Q. Foreign nations own US companies that are performing classified contracts for DOD.⁷⁸

All of the above methods and other which are included in classified reports are updated versions of classic Cold War recruitment and technical operations. While the US has for 45 years focused its intelligence effort on external military threats, many US trade rivals have divided their spy efforts between military threats and economic competitors.⁷⁹ Today the massive and aggressive espionage efforts against the US are a continuation of these operations, focusing more now on the economic aspects. The difference is rather than these operations being carried on by professed enemies of the US, now many of our current allies are conducting them. The second difference is that these operations are carried on not only against DOD affiliated businesses which have developed appropriate governmental sponsored security programs, but also against businesses whose security practices are developed to counter common criminal activities not professional intelligence operatives.

The assessment of what information the above competitive intelligence operations are looking for go from the extreme in Japan, who have been quite successful in their effort to obtain pricing data or negotiating strategies, to advanced defense related technology, to intellectual properties, including but not limited to software, music, movies and literary works. The information can be divided into the three categories of resources, trade and technology. The legal definition of trade secrets as stated in the Economic Espionage Act of 1996 is:

all forms and types of financial, business, scientific, economic, or engineering information, including patterns, plans, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs or codes, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing if (A) the owner thereof has taken reasonable measures to keep such information secret; and (B) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by the public.⁸⁰

In today's world, a country's power and stature are often measured by its economic/industrial capability. Our military rivals still attempt to steal documents for a state of the art weapon system or defense system, an economic competitor steals a US company's proprietary business information or government trade secret. The industries that have been most targeted include biotechnology; aerospace/aeronautics; telecommunications, including the technology to build the National Information Infrastructure; computer software/hardware and codes; electronics; advanced transportation and engine technology; advanced materials and coatings, including "stealth" technologies; energy research; defense and armaments technology; manufacturing processes, to include computer-integrated manufacturing; and semiconductors. Proprietary business information, i.e., bid, contract, customer and strategy information, in these sectors is aggressively targeted, as well.⁸¹

Types of US governmental economic information, especially pre-publication data, that is targeted includes: US economic, trade and financial agreements; US trade developments and policies; US national debt levels; US tax and monetary policies; foreign aid programs and export credits; technology transfer and munitions control regulations; US energy policies and critical materials stockpile data; US commodity policies; and proposed legislation affecting the profitability of foreign firms operating in the United States.⁸²

Trying to ascertain the cost to the US economy and the US relative military superiority as a result of legal and illegal competitive intelligence operations is very difficult. The main reason for this is that competitive intelligence, much like all other intelligence operations, is cloaked in a certain amount of secrecy. However, there are several indicators which can be examined to provide some insight to this problem. First, the US economy is suffering significant loss as a result of these operations. The White House Office of Science and Technology from known cases, estimates that in 1996 foreign espionage cost US companies almost \$100 billion.⁸³ A 1997 FBI report further indicates that this cost may now have exceeded \$300 billion.⁸⁴ If you accept even the first figure, then recognize that the FBI believes it is involved in or detects only one in twelve cases, and that their investigations have gone up 800 percent since 1994.⁸⁵ The actual cost could be anywhere from a minimum of \$100 billion to more than \$1 trillion per year. This is a significant loss when you consider the US 1997 GNP was \$21.4 trillion.

However, this is only an indicator of more serious problems. First, are the loss of substantial up-front investments by US firms. These losses are costing hundreds of millions of dollars and allowing other nations to by-pass the research and development phase by stealing from the US. These monetary losses, which have required US firms multiple years of work in laboratories, cannot be replaced and their impacts are impossible to comprehend fully.⁸⁶ The theft of ideas and innovations used to produce advanced technologies can be as valuable to a company today as an entire factory was several years ago.⁸⁷ This theft of high-tech secrets for commercial advantage is costing the US billions of dollars and thousands of jobs.⁸⁸

Second, are losses to our defense industry and US relative military superiority. A common goal of most of the countries that deal in economic espionage is to support their country's defense industry. Stolen US defense technology is incorporated into their domestically produced systems. By obtaining technology from the US, a country can have cutting edge weapons without the cost of research and development. This cutting edge technology not only provides superior weapons for these countries own use, but also make these products marketable for export. The obtaining of cutting edge technology can make the difference between a self-sufficient defense manufacturing industrial base for a nation or its failure.⁸⁹

As US cutting edge technology is obtained by other nations they are able to compete with the US defense industries in the international arms market. This also results in technology reaching countries which are opposed to the US view and world objectives. Finally, nations with these cutting edge technologies often are able to develop political alliance, which again may oppose US objectives.⁹⁰

Countries that profess to be US allies are breaking espionage laws to undermine the economic infrastructure of the US and boost their own businesses. We are in "Cold War II" and the US is loosing.⁹¹ Today with the world economy becoming more information dependent, the loss of economic intelligence can bring down companies, industries, governments, and even national economies.⁹² The state of a nation's economy will determine ultimately its military capability. The loss of economic power weakens the nations capability to field a robust military force.

On November 4, 1993 before the Senate Foreign Relations Committee, Secretary of State Warren Christopher stated, "In the post-Cold War world, our national security is

inseparable from our economic security.”⁹³ We are experiencing as a result of global competition, financial instability, and in the case of some countries, a desperate effort to survive, an inexorable increase in legal and illegal intelligence gathering resulting in massive damage to our economic and military security.⁹⁴ The final section of this monograph will recommend changes in our national security and defense strategies and suggest other initiatives to combat competitive intelligence operations against the US.

V. Changes to National Strategies, DOD and Intelligence Support

Prior to recommending changes to the current national security and defense strategies several questions originally posed must be answered. First, is whether or not current competitive intelligence operations are a threat? The cost to our economy and relative military superiority as depicted in Section IV would indicate so. Second, does DOD recognize it as a threat? A review of the May 1997 QDR indicates it is not considered grave enough to include. The December 1997 Report of the National Defense Panel, has a greater recognition of the importance of economics power; however, it also does not mention or consider the threat of competitive intelligence operations. Third, should DOD consider this a valid mission? As we have seen throughout history the missions assigned to DOD have been everything from fighting major wars, to fighting fires, to combating civil disturbances, and to the recent “War on Drugs”. This suggests it could be assigned as a mission if deemed a significant threat by our political leadership. Finally, if it is a mission given to DOD, what can DOD contribute? Some thoughts and answers to these questions will be the focus of this final section.

The foundations of military involvement in the security of the US are the national security and defense strategies. The ability to anticipate and shape change requires a forward-looking national strategy. Currently these documents are not forward looking as they do not consider the use of economic power by other nations an importance threat. The NCA and DOD must recognize and accept that many of our current allies are also economic threats to our nation's survival. Once this has been done strategies can be developed and implemented which will accommodate military cooperation and economic threats from the same nation states. This requires the shrugging off of old paradigms and expanding on the primary purpose of DOD from deterring and defending the threat of organized violence against the US and its interest. The threat of foreign competitive intelligence operations against US interest which supports their economic power must be included. The recognition and inclusion of this threat in the defense strategy of shaping the international security environment will begin the process to allow the required actions to be taken.

As with any complex problem which is influenced by many factors, a single solution or individual change will not be sufficient or easily developed. In three remarkable reports prepared in 1939, 1940 and 1941 the General Board of the Navy tried with remarkable honesty to answer the question of their readiness to face the German submarine threat they knew they would have to face as the US prepared for war with Germany. Although the General Board discussed organization at the highest level, calling for the creation of a joint general staff in order to coordinate national defense planning, it did not look at organizational requirements within the Navy for war. Rather it focused its attention on numbers and quality of ships, planes, munitions, and supplies; although it

addressed in cursory fashion the adequacy of war plans, it did not ask whether the organization of the Navy's force matched wartime requirements.⁹⁵ This fixation on technical aspects of the problem is one of the main reasons why the Allies and neutral nations lost an average of 650,000 tons of shipping per month during the first months of the war.⁹⁶

Section II presented numerous reasons for reluctance to organizational change. The NCA and DOD, much as the Navy was prior to WW II, are tied into the technical aspects and conventional methods of war as expressed in the national security and defense strategies. There is a need for an in-depth look at the organization, roles and missions within DOD to determine what requires change to address the current importance and use of economic power as an element of war. To support this change in the elements of national power, DOD must accept this new threat. The use of economic war by our enemies to offset our military power must be given the same level of consideration as current convention weapons threats.

As discussed earlier this acceptance will not be an easy or simple process and impossible without dynamic leadership from the legislative branch and the NCA. It will require an inordinate amount of time for the DOD bureaucracy to change. This problem has been known for some time as exemplified in an article written in 1993 by John F. Donnelly, then the Director of the Defense Investigative Service when he discussed a new world view:

"He stated concerning our acceptance of new threats that for more than forty years, the primary focus of the Department of Defense was to wage and win the cold war against communism and to prevent---or, failing that, to prevail in---a hot war with the Soviet Union. Today the enemy is not so well defined. There has been a push to identify a new enemy, and many new adversaries that have been identified are national allies. In dealing with the new threat, people fall back on a simplistic view of the world- to look at it in terms of good versus evil---regarding cold war allies

as enemies in an economically competitive international environment. But the good old days of a clearly defined enemy are probably gone forever. Modern times require a subtler and more sophisticated world view. The new sources of the threat are the same countries whose companies American businesses are teaming up with in international partnerships and other cooperative arrangements."⁹⁷

All of the following changes will not achieve the required outcome without the reorganization of several key governmental agencies. The national security structure laid out by the 1947 National Security Act have served the US well over the past fifty years. It is time, however, to think through what changes are necessary and update accordingly. The CIA, DIA, NSA, FBI and Departments of Justice and Commerce, as well as DOD need to evaluate their current structure and develop departments dedicated to fighting the economic war we are loosing. The heads of each of these departments should report to their agencies director and a separate president appointed director at the cabinet level. This cabinet director should be provided the legislative power to gain support from all agencies in solving key problems. Intelligence agencies require greater experience in economics to allow them to assess with relevance this threat to US security. The Departments of Justice and Commerce require greater authority to prosecute economic espionage and assist key US businesses.

Their is no longer the black and white enemy of the past, everything is a shade of gray. DOD initiatives and changes must have the balance, integration and flexibility to accept this new threat. To counter this threat DOD, other governmental agencies and civilian business organizations, need to stand up an Inter-Agency Committee to enhance our economic competitiveness. This committee needs to develop a campaign plan to address legal and illegal competitive intelligence operations against the US. Their goal must be to make US businesses more competitive in the international marketplace. To do

this programs, supported by intelligence organizations, must bring certain key US businesses on par with other nations in the competitive intelligence arena. Concurrently, the grossly inaccurate image of intelligence which lingers on in the minds of many US military and corporate leaders requires a complete re-evaluation. Despite endless accounts of foreign countries employing well-developed intelligence skills to beat American counterparts in a variety of countries and markets, we still refuse to acknowledge it as a threat.⁹⁸

The focus for the development of these programs must first be on those areas identified as economic supporters to military power. Then in order to protect all US industries and our economy in general, the program requires expansion to not just those that support defense or are considered critical. The areas of greatest importance include biotechnology; aerospace/aeronautics; telecommunications, including the technology to build the National Information Infrastructure; computer software/hardware and codes; electronics; advanced transportation and engine technology; advanced materials and coatings, including "stealth" technologies; energy research; defense and armaments technology; manufacturing processes, to include computer-integrated manufacturing; and semiconductors. Proprietary business information, i.e., bid, contract, customer and strategy information must also be considered.

Each of these programs, to facilitate implementation, requires a DOD sponsored Competitive Analysis Group (CAG), supported by intelligence gathered by DOD agencies. These groups could be patterned after the Sematech experiment where several US agencies, including the Department of Defense and Commerce, and industry leaders got together to focus on the nations waning semiconductor industry.⁹⁹ These groups would

perform missions and roles much like those stated in the following CAG mission statement:

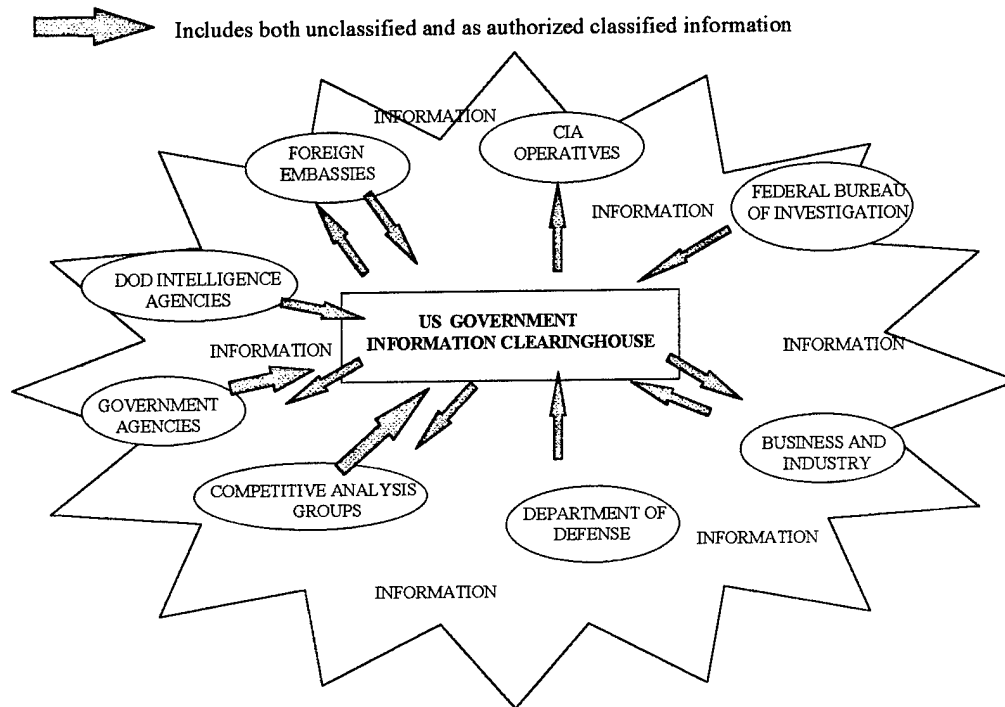
"The CAG contributes timely communications from analysis of data that provides intelligence about semiconductor industry equipment, technology, manufacturing, and business trends to create strategic plans to guide programs and projects at SEMATECH, and to support member company understanding of the requirement to be world class competitors."¹⁰⁰

To facilitate competitive intelligence operations through the above CAGs, intelligence programs led by DIA, patterned after the Japanese External Trade Organization are required. These quasi-governmental organizations mission would be to support trade between US and other countries. They would play a major role as a source of competitive intelligence for the above US industries. Along with the CIA, these programs must quantify and analyze the global economy and industrial trade. The defense intelligence communities historical role of providing intelligence to support the National Command Structure decision makers must change. They need to provide not only current, short range operational intelligence, but also long range economic threat intelligence to support both US business and governmental planning to meet future challenges.

The CIA has repeatedly been chastised by Congress and other organizations for their inability to conduct reliable economic analysis on former Eastern Bloc countries. It has been pointed out that with the secrecy surrounding their operations, it appears that their analysis is not based on hard information, but on a few people sitting around a desk making guesses. This process must be changed. When academicians and for-profit forecasters issue their predictions, they are disinfected by sunlight. They are subject to critical review--critics let them know when they are off base, and eventually the bad numbers and analysis is discredited.¹⁰¹ To prevent this and provide accurate information

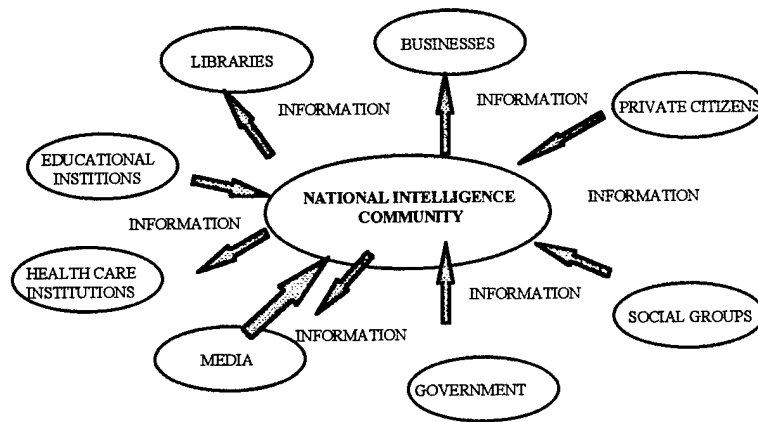
for analysis the US government needs to set up an Information Clearinghouse. This clearing house needs to have both classified and unclassified access capabilities.

Graphically it would look like the following:



102

To further support the collection of open source information the National Intelligence Community needs to develop, with industry and civilian organizations, competitive intelligence networks. These networks will be part of the overall social intelligence network that all countries require to remain prosperous and compete in the current world economy. Today the world wide web capabilities are moving in this direction. The free flow of information or intelligence will eventually take place when all facets of society are interconnected and everyone acts as a collector of information.¹⁰³ The network would look something like the following:



104

All of the above suggestions are developed to provide information and intelligence to make US businesses more competitive in the current world economy. Along with these offensive actions, several defense actions are also required. These include using the above CAGs and proposed communications networks to provide greater information on the methods and trends being used by foreign governments to collect both legal and illegal information. The US government, using DOD as one of the lead agencies, needs to take a greater role in educating Corporate America as to the threat they are facing. The current process used by DOD to accredit government contractors for classified contracts needs to be expanded to other critical supporters of the defense community. A greater effort needs to be made by the FBI and other law enforcement agencies to investigate and prosecute foreign illegal competitive intelligence operations. Finally, this assistance needs to be provided to all US companies to keep the US economy strong.

Clausewitz states in Chapter Three of Book Eight that “every age had its own kind of war, its own limiting conditions, and its own peculiar preconceptions.”¹⁰⁵ He goes on to discuss one of his central themes of “center of gravity” stating “one must keep the dominate characteristics of both belligerents in mind. Out of these characteristics a certain center of gravity develops, the hub of all power and movement, on which everything depends. That is the point against which all our energies should be directed.”¹⁰⁶ The US uses economic power to carry out both domestic and foreign policy. It uses all available economic resources to implement processes and programs to achieve desired results. US military presence serves as a policy instrument designed to support directly economic interest such as maintaining openness in highly interdependent economic systems.¹⁰⁷

The December 1997 NDP report concludes that:

“In the increasingly complex and dynamic world that we foresee, the Department of Defense and its armed services alone cannot preserve US interest. Defense is but one element of a broader national security structure. If we are to be successful in meeting the challenges of the future, the entire US national security apparatus must adapt to become more integrated, coherent, and proactive.”¹⁰⁸

The overarching issue and DODs challenge, is whether it can recognize and accept this ages kind of war. Then once it has, to determine how it must change to assist in meeting the threats of competitive intelligence operations, which are becoming our center of gravity. If the US security structure cannot change, the US could find itself in a position relative to emerging transnational economic power brokers that is comparable to Russia’s current world position. Having lost its economic supremacy, the US would still be the world’s greatest military power, however, it would no longer be a superpower.

ENDNOTES

1. Concept for Future Joint Operations, Expanded Joint Vision 2010, May 1997. Commander, Joint Warfighting Center, Building 96 Fenwick Road, Fort Monroe, Va. 2361-5000. Par. 1-14, page 5.
2. William S. Cohen, "Report of the Quadrennial Defense Review", Department of Defense, Washington, DC, May 1997. Section II, page 1.
3. Donald M. Snow, National Security: Enduring Problems of US Defense Policy. New York, NY. St. Martin Press, 1987. p. 22.
4. Snow. p. 22.
5. Snow. p. 21.
6. Asymmetric actions are those which do not directly respond to our traditional military strengths. Adversaries will seek to disable the underlying structure that enables our military operations. Forward bases and forward-deployed forces will likely be challenged and coalition partners coerced. Critical nodes that enable communications, transportation, deployment, and other means of power projection will be targeted. Our domestic communities and key infrastructures may also be targeted. The proliferation of nuclear, chemical, and biological weapons and their delivery means will pose a serious threat to the US and forces overseas. Information and space systems will undoubtedly be targeted or exploited. (Transforming Defense: National Security in the 21st Century, "Report of the National Defense Panel December 1997" National Defense Panel, 1931 Jefferson Davis Hwy., Arlington VA, 22022-3805.)
7. William S. Cohen, "Report of the Quadrennial Defense Review", Department of Defense, Washington, DC, May 1997. Section II, page 1-5.
8. Cohen. Section III, page 1-17.
9. Cohen. Section III, page 1-17.
10. Samuel P. Huntington, The Soldier and the State. Cambridge, Massachusetts: The Belknap Press of Harvard University Press., 1994. p.1.
11. Samuel P. Huntington, "America's Changing Strategic Interest", Survival, 33 No. 1 (January/February 1991) : 3-17.
12. "Force XXI Threat", Briefing presented by BCTP trainers to 2AD Cdr. and Staff as part of BCTP Seminar, Fort Leavenworth, Kansas, 14 Mar 95.

13. Philip Shenon, "Gulf War issue mishandled", Kansas City Star, October 26, 1997, Section A, P. 24.
14. Dietrich Dorner, The Logic of Failure. New York, NY: Metropolitan Books, Henry Holt and Company., 1996. p. 63.
15. Peter Senge, The Fifth Discipline., New York, N.Y.: Currency Doubleday, 1990. P. 69.
16. Dorner. P. 91-92.
17. Senge. P. 231.
18. Gordon R. Sullivan and Michael V Harper, Hope is not a method., New York, NY: Times Books, 1996. P. 46-47.
19. Lester C. Thurow, The Future of Capitalism. New York, NY: William Morrow and Company, Inc., 1996. P.242.
20. Knowledge and Speed; The Annual Report on The Army After Next Project to the Chief of Staff of the Army. United States Army, The Chief of Staff, 1 August 1997. P. A 2-3.
21. Carl Von Clausewitz, On War., Ed. Michael Howard and Peter Paret., Princeton, New Jersey: Princeton University Press., 1984. P. 97.
22. Clausewitz, P. 97.
23. Clausewitz, P. 97.
24. Knowledge and Speed; The Annual Report on The Army After Next Project to the Chief of Staff of the Army. United States Army, The Chief of Staff, 1 August 1997. P. A-1.
25. Kevin Kelly, Out of Control. Reading, Mass: Addison-Wesley Publishing Co., 1994. P. 401.
26. James J. Schneider, Military Theory (1): Introduction. AOAS Lesson 10. Diagram was developed partly from discussions in class and readings on complexity theory. Fort Leavenworth, Kansas. 7 August 1997.
27. James J. Schneider, Military Theory (27): The Future of Military Operations 1. AOAS Lesson No. 53. Developed from discussions in class. Fort Leavenworth, Kansas. 6 November 1997.

28. Schneider, 6 November 1997.
29. Samuel P. Huntington, "America's Changing Strategic Interest," *Survival* Vol. 33, No. 1, January/February 1991. P.5.
30. Huntington, P. 5.
31. Huntington, P. 6.
32. Thurow. P.64.
33. Thurow. P.119.
34. Huntington. P. 9.
35. James J. Schneider, *Military Theory (5): War and Grand Strategy*. AOAS Lesson No. 14. Developed from discussions in class. Fort Leavenworth, Kansas. 14 August 1997.
36. B.H. Liddell Hart., *Strategy*. New York, NY: New American Library, 1974.P.322.
37. Hart P.324.
38. Snow. P. 19.
39. Thomas A. Stewart, "The new face of American power," *The Time Inc., Magazine Company Fortune.*, Section Looking Ahead; Pg. 70, 26 July 1993.
40. Brian R. McCarron, "Economic High Noon." International Business, Vol.: 5, No.: 8, Aug. 92. P. 74.
41. Peter Schweizer, "The growth of economic espionage: America is Target Number One," Foreign Affairs, Vol.: 75, Iss.: 1, Jan/Feb. 1996. P. 10.
42. Gerard P. Burke, "Economic Espionage: Government Help is Needed," Government Executive, Volume 24, Number 11, November 1992. P.56.
43. Susumu Awanohara, and Melana Zyla, "United States: Spooks for industry." Far Eastern Economic Review, Vol.: 156, Iss: 8, Feb. 25, 1993.
44. Schweizer. P.10.
45. Reuters, "CIA Names on espionage France, Israel, Accused of economic spying," Chicago Tribune, Section: News, Page: 8, August 15, 1996.

46. Economic Espionage Act of 1996. (On-line), US Congress, October 2, 1996. Signed by President : October 11, 1996. 17 Nov. 1997.
47. Schweizer. P.9.
48. Samuel B. Porteous, "Economic Espionage: New target for CSIS," Canadian Business Review, Vol.: 20, Iss. 4, Winter 1993.
49. James Risen, "FBI Seeks New Laws to Fight Economic Spying," Los Angeles Times, Home Edition, Page 1, February 29, 1996.
50. France, Israel, Japan, Russia and Iran identified in article by Risen. P. 1; South Korea and Germany identified in article by Jonathan S. Landay, "Congress moves to stop spies in the workplace," Christian Science Monitor, Page. 1, March 12, 1996; Cuba, Vietnam and North Korea identified in article by James F. McCarty, "Cold War II Spies target trade Secrets," Plain Dealer, Section: Metro, Page: 1B, March 21, 1993.
51. Schweizer. P. 11.
52. Burke. P. 56.
53. Risen. P1.
54. Ronald E. Yates, "US intelligence retools to fight new brand of espionage," Chicago Tribune, Section: Business P: 1, August 30, 1993.
55. Larry Kahaner, Competitive Intelligence. New York, NY: Simon and Schuster., 1996. P. 160.
56. Kahaner. P.164.
57. Kahaner. P. 169-172.
58. Kahaner. P.173.
59. Kahaner. P.166.
60. Gene Marlow, "Coming in from the Cold War; Industrial espionage takes off as spies work for US firms," Huston Chronicle, Star Edition, Page 13, June 13, 1993.
61. Yates. P. 1.
62. Louis J. Freech, "Testimony before the Senate Select Committee on Intelligence and Senate Committee on the Judiciary, Subcommittee on Terrorism, Technology and Government Information," US General Accounting Office, February 28, 1996. P. 5.

63. Freech. P. 6.
64. Freech. P. 6.
65. Freech. P. 6.
66. Freech. P. 7.
67. Schweizer. P. 12.
68. McCarty. P. 1B.
69. McCarty. P. 1B.
70. McCarty. P. 1B.
71. McCarty. P. 1B.
72. Charles M. Sennott, "New Cold War: Spies target corporations," Boston Globe, Section: National/Foreign, Page A1, January 19, 1997.
73. Yates. P. 1.
74. Marlow. P. 13.
75. David E. Cooper, "GAO Testimony before the Select Committee on Intelligence United States Senate, US General Accounting Office, February 28, 1996. P. 2.
76. Cooper. P. 2.
77. Cooper. P. 3.
78. Cooper. P. 4.
79. Ronald J. Ostrow, "Economic Espionage Poses Major Peril to US Interest," Los Angeles Times, Home Edition, Page 1, Pt.A Col., September 28, 1991.
80. Economic Espionage Act of 1996. (On-line), US Congress, October 2, 1996. Signed by President : October 11, 1996. 17 Nov. 1997.
81. Freech. P. 3.
82. Freech. P. 4.

83. Donna Rosato, "Firms lose billions to spies," USA Today, Section Money, Page 01B, February 29, 1996.
84. Jack Nelson, "Spying on corporate America," The Kansas City Star, Page 1, January 12., 1998.
85. Landay. P. 1.
86. Sennott. P. A1.
87. Mark R. Halligan, "The Economic Espionage Act of 1996: The theft of trade secrets is now a federal crime," (On-line) mhallign@execpc.com. Copyright 1996-1997 R. Mark Halligan, Esq. P. 10.
88. Landay. P. 1.
89. Cooper. P. 2.
90. Cooper. P. 3.
91. McCarthy. P. 1B.
92. McCarron. P. 75.
93. Freeh. P. 2.
94. Burke. P. 57.
95. Elliot A. Cohen and John Gooch, Military Misfortune, New York, NY: The Free Press, 1990. P. 88.
96. Cohen and Gooch. p. 59.
97. John F. Donnelly "Dependable enemies, undependable friends." Security Management, Vol.: 37, Iss.: 9, Sep. 1993. p. 159.
98. Kenneth A. Sawka, "Demystifying business intelligence," Management Review, Vol.: 85, Iss.: 10, Oct. 1996. P. 47.
99. Larry Kahaner, Competitive Intelligence. New York, NY: Simon and Schuster., 1996. p. 264.
100. Kahaner. P.265.

101. Mike Evans, "Another angle on Aldrich Ames," Industry Week, Vol.: 243, Issue 7, April 4, 1994. P. 77.
102. Kahaner. P. 268.
103. Kahaner. P.278.
104. Kahaner. P.279.
105. Carl Von Clausewitz, On War, Ed. Michael Howard and Peter Paret., Princeton, New Jersey: Princeton University Press., 1984. P. 593.
106. Clausewitz. P. 595-596.
107. Gregory Grant and Don M. Snider, "The Future of Conventional Warfare and US Military Strategy," The Center for Strategic and International Studies and the Massachusetts Institute of Technology, The Washington Quarterly, Section: Research Survey; Vol. 15, No. 1,, Winter 1992. Pg. 200.
108. Transforming Defense: National Security in the 21st Century, "Report of the National Defense Panel December 1997" National Defense Panel, 1931 Jefferson Davis Hwy., Arlington VA, 22022-3805. P. 87.

BIBLIOGRAPHY

BOOKS

Beniger, James R., The Control Revolution, Cambridge, Mass: Harvard University Press, 1986.

Bond, Brian., The Pursuit of Victory. New York, NY: Oxford University Press Inc., 1996.

Clausewitz, Carl Von., On War., Ed. Michael Howard and Peter Paret., Princeton, New Jersey: Princeton University Press., 1984.

Cohen, Elliot A and Gooch, John, Military Misfortune, New York, NY: The Free Press, 1990.

Dorner, Dietrich., The Logic of Failure. New York, NY: Metropolitan Books, Henry Holt and Company., 1996.

Douhet, Giulio, The Command of the Air., Washington, DC: Officer of Air Force History., 1983.

Fialka, John J., War by Other Means. New York, NY.: W.W. Norton and Company, Inc., 1997.

Jomini, Baron Antoine Henri, The Art of War., Mechanicsburg, Pa.: Stackpole Books., 1992.

Hart, B.H. Liddell., Strategy. New York, NY: New American Library, 1974.

Huntington, Samuel P., The Soldier and the State. Cambridge, Massachusetts: The Belknap Press of Harvard University Press., 1994.

Kahaner, Larry., Competitive Intelligence. New York, NY: Simon and Schuster., 1996.

Kelly, Kevin., Out of Control. Reading, Mass: Addison-Wesley Publishing Co., 1994.

Luttwak, Edward N., The Endangered American Dream: How to Stop the United States from Becoming A Third-World Country and How to Win the Geo-Economic Struggle for Industrial Supremacy. New York, New York: Simon and Schuster., 1993.

Mahan, A.T., The influence of seapower upon history., New York, NY: Hill and Wang., 1957.

Schneider, James J., The Structure of Strategic Revolution. Novato, Ca: Presidio Press., 1994.

Senge, Peter M., The Fifth Discipline, New York, NY: Currency Doubleday, 1990.

Snow, Donald M., National Security: Enduring Problems of US Defense Policy. New York, NY. St. Martin Press, 1987.

Sullivan, Gordon R. And Harper, Michael V., Hope is not a method, New York, NY: Times Books, 1996.

Thurow, Lester C., The Future of Capitalism. New York, NY: William Morrow and Company, Inc., 1996.

REPORTS

Cohen, William S. "Report of the Quadrennial Defense Review", Department of Defense, Washington, DC, May 1997.

Cooper, David E. "GAO Testimony before the Select Committee on Intelligence United States Senate, US General Accounting Office, February 28, 1996.

Concept for Future Joint Operations, Expanded Joint Vision 2010, Commander, Joint Warfighting Center, Building 96 Fenwick Road, Fort Monroe, Va. 2361-5000. May, 1997.

Economic Espionage Act of 1996. (On-line), US Congress, October 2, 1996. Signed by President : October 11, 1996. 17 Nov. 1997.

Freech, Louis J., "Testimony before the Senate Select Committee on Intelligence and Senate Committee on the Judiciary, Subcommittee on Terrorism, Technology and Government Information," US General Accounting Office, February 28, 1996.

Knowledge and Speed; The Annual Report on The Army After Next Project to the Chief of Staff of the Army. United States Army, The Chief of Staff, 1 August 1997.

Transforming Defense: National Security in the 21st Century, "Report of the National Defense Panel December 1997" National Defense Panel, 1931 Jefferson Davis Hwy., Arlington VA, 22022-3805.

US Congress, "Report by Commission on the Roles and Capabilities of the United States Intelligence Community", February 2, 1996.

ARTICLES

Arbetter, Lisa., "Intelligence policy in a changing world," Security Management, Volume: 38, Issue: 5, May 1994.

Arena, Michael, "Trying to Wiretap the High-Tech Future," Newsday, Section :Viewpoints Page A23, May 16, 1994.

"Assessing Germany: Potential or Peril?," The New York Times Company, Section A; Page 1; Column 3; foreign desk, 29 September 1992.

Awanohara, Susumu, and Zyla, Melana. "United States: Spooks for industry." Far Eastern Economic Review, Vol.: 156, Iss: 8, Feb. 25, 1993.

Barnes, David R., "Why Business Intelligence is never an Oxymoron," Global Finance, Vol.: 10, No: 6, June 1996.

Borrus, Amy., "The new CIA: I spy - For business," Business Week, Issue 3394, 17 Oct. 1994.

Burke, Gerard P., "Economic Espionage: Government Help is Needed," Government Executive, Volume 24, Number 11, November 1992.

Cooper, Kenneth J., "Intelligence Goes Public in the House Panel's New Chairman Opens Hearing Today," The Washington Post, Section A, Page a17, March 9, 1993.

Davis, Robert B., "Changing roles for MI in the 21st Century," Military Intelligence, Volume 16, Number PB 34-90, April-June 1990.

Donnelly, John F. "Dependable enemies, undependable friends." Security Management, Vol: 37, Iss.: 9, Sep 1993.

Doyle, John M., "New job for spies: Corporate espionage," Chicago Tribune, Section: Business, Page: 13, November 22, 1992.

Deutch, John. "Toward a better Intelligence Community Relationship," Defense Issues, Vol. 10, Number 73, 1995.

Evans, Mike, "Another angle on Aldrich Ames," Industry Week, Vol.: 243, Issue 7, April 4, 1994.

Foster, Gregory D., "America and the World: A Security Agenda for the twenty-first Century," Strategic Review, Vol. XXI, No., Spring 1993.

Gough, Barry M., Maritime Strategy: "The Legacies of Mahan and Corbett as Philosophers of Sea Power." RUSI Journal. Winter 1988.

Grant, Gregory and Snider, Don M., "The Future of Conventional Warfare and US Military Strategy," The Center for Strategic and International Studies and the

Massachusetts Institute of Technology, The Washington Quarterly, Section: Research Survey; Vol. 15, No. 1; Pg. 200, Winter 1992.

Halligan, Mark R., "The Economic Espionage Act of 1996: The theft of trade secrets is now a federal crime," (On-line) mhalligan@execpc.com. Copyright 1996-1997 R. Mark Halligan, Esq.

Helm, Leslie, "Washington and Tokyo struggle for economic and military balance in their new post-cold war roles," The Times Mirror Co., Los Angeles Times, Section: World Report; Page 2; Column 1; Foreign Desk, 21 May 1991.

Huntington, Samuel P. "America's Changing Strategic Interest," Survival Vol. 33, No. 1, January/February 1991.

Ingwerson, Marshall., "Russian bear growling a little bit louder as security talks near," The Christian Science Monitor, 29 November 1996, International Section, Pg. 6.

Kelly, Patrick W., "The Economic Espionage Act of 1996," (On-line) Discussion by Mr. Kelly, Chief of the Administrative Law Unit, Office of General Counsel, FBI Headquarters Washington DC

Kunz, Diane., "Are we hammering the nails into NATO's coffin?," Times Newspaper Limited, Sunday Times, Features Section, 27 November 1994.

Landay, Jonathan S. "Congress moves to stop spies in the workplace," Christian Science Monitor, Page. 1, March 12, 1996.

Lardner, George, "CIA's Gates Opposed to "Commercial Spying" Unconventional Arms seen as Greatest Danger," The Washington Post, Section A p. A18, December 12, 1991.

Llanagan, Mark, "Economic Espionage Act Criminalizes Trade Secret Theft," (On-line), Mark@sf-law.com. 19 Nov. 1997.

Nacht, Alexander., "US Foreign policy Strategies" The Center for Strategic and International Studies and the Massachusetts Institute of Technology, The Washington Quarterly, Section: Research Survey; Vol. 18, No. 3; Pg. 193, Summer 1995.

Nelson, Jack, "Spying on corporate America," The Kansas City Star, Page 1, January 12., 1998.

Makin, John H., "International monetary fund Forum Seminar on Trade, Finance and Protectionism," Federal Information Systems Corporation, Federal News Service, Section: Commerce and trade, 28 April 1989.

Marlow, Gene, "Coming in from the Cold War; Industrial espionage takes off as spies work for US firms," Huston Chronicle, Star Edition, Page 13, June 13, 1993.

McCarron, Brian R., "Economic High Noon." International Business, Vol.: 5, No.: 8, Aug. 92.

McCarty, James F., "Cold War II Spies target trade Secrets," Plain Dealer, Section: Metro, Page: 1B, March 21, 1993.

McGee, Jim, "Someone to Watch Over Us," The Washington Post, Section: T.V. TAB, P. W09, June 23, 1996.

Moss, G., "Beware those wily allies," The National Journal, Inc., Section: Inside Washington; Vol. 21, No. 40; Pg. 2445, 7 October 1989.

Ostrow, Ronald J. "Economic Espionage Poses Major Peril to US Interest," Los Angeles Times, Home Edition, Page 1, Pt.A Col., September 28, 1991.

Phillips, Kevin., "A new definition of National defense," The Times Mirror Company, Los Angeles Times, Section: Opinion; Part 5; Page 1; Column 1; Opinion desk, 22 May 1988.

Porteous, Samuel B. "Economic Espionage: New target for CSIS," Canadian Business Review, Vol.: 20, Iss. 4, Winter 1993.

Reuters, "Spying to take economic turn US business could be targeted, CIA, FBI chiefs say," Chicago Tribune, Section: Business page: 7C, May 10, 1992.

Reuters, "CIA Names on espionage France, Israel, Accused of economic spying," Chicago Tribune, Section: News, Page: 8, August 15, 1996.

Ricks, Thomas E., "On American Soil: The Winding Gap Between the US Military and US Society", Working paper No. 3, Cambridge: John M. Olin Institute for Strategic Studies, May 1996.(SAMS reprint, January 1997).

Ridder, Congressman (R-PA), Don, "Manufacturing's representatives; expert from Don Ridder's WESTEC address," Huebcore Communications Inc., Section: Vol. 56; No. 4 Pg. 142; ISSN: 0040-9243, July 1990.

Rielly, John E., "The public mood at mid-decade," Carnage Endowment for International Peace Foreign Policy, 22 March 1995, Section No. 98: pg. 76; ISSN: 0015-7228.

Risen, James, "FBI Seeks New Laws to Fight Economic Spying," Los Angeles Times, Home Edition, Page 1, February 29, 1996.

Robinson, Clarence A. Jr., "Intelligence Community Recasts Roles, Confronts Myriad Threats," Signal, Vol. 48, Number 12, August 1994.

Rosato, Donna, "Firms lose billions to spies," USA Today, Section Money, Page 01B, February 29, 1996.

Sawka, Kenneth A., "Demystifying business intelligence," Management Review, Vol.: 85, Iss.: 10, Oct. 1996.

Schweizer, Peter., "The growth of economic espionage: America is Target Number One," Foreign Affairs, Vol.: 75, Iss.: 1, Jan/Feb. 1996.

Sennott, Charles M., "New Cold War: Spies target corporations," Boston Globe, Section: National/Foreign, Page A1, January 19, 1997.

Shenon, Philip, "Gulf War issue mishandled", Kansas City Star, Section A, Oct. 26, 1997.

Slahor, Stephenie., "AFTA NAFTA," Supervision, Vol.: 57, Iss.: 6, Jun. 1996.

Stewart, Thomas A., "The new face of American power," The Time Inc., Magazine Company Fortune., Section Looking Ahead; Pg. 70, 26 July 1993.

Wolf, Jim, "CIA accuses 2 longtime allies of economic espionage," Detroit Free Press, Section: NWS Page 5A, August 15, 1996.

Yates, Ronald E., "US intelligence retools to fight new brand of espionage," Chicago Tribune, Section: Business P: 1, August 30, 1993.

Yost, Casimir A., "Debate over direction of US Foreign policy Cold War, environmental, economic woes at issue," The Chronicle Publishing Co. The San Francisco Chronicle, Section: Analysis and Opinion, November 1, 1989.

MONOGRAPHS

Boyd, Herchell A., "Joint Intelligence in Support of Peace Operations," Naval War College, Newport, RI, 14 June 1996.

Browning, Susan A., "Understanding Non-Western Cultures: A Strategic Intelligence Perspective," Army War College Strategic Studies Inst., Carlisle Barracks, PA., 9 April 1997.

Hagy, Richard E., "The US Navy Role in Joint Task Force Counternarcotics Operations: "Mission Impossible" or "A Recipe for Success?," Naval War College, Newport, RI, 11 February 1991.

Libicki, Martin C., "What is Information Warfare", National Defense University, Institute for National Strategic Studies Washington DC., August 1995.

Scott, Karen E., "Paradigm Shift: US Strategic Intelligence in the 1990's", Army War College Strategic Studies Inst., Carlisle Barracks, PA. 06 April 1993.

Stewart, Phillip., "Role of the Armed Forces in Industrial Espionage", Industrial College of the Armed Forces, Washington, DC. April 1994.

Titten, James J., "America's New National Security Strategy", Naval Post Graduate School, Monterey, Ca., 11 Mar, 1991.

UNPUBLISHED SOURCES

Clapper, Lieutenant General, James R., USAF Director, Defense Intelligence Agency, "The worldwide threat to the United States and its interest abroad" Statement for the Senate Committee on Armed Services, January 17, 1995.
<http://www.infomanage.com/international/intelligence/clapper.html>. On-line.

"Force XXI Threat", Briefing presented to 2AD Cdrs and staff as part of BCTP Seminar, Fort Leavenworth, Kansas, 14 Mar 95.

Schneider, James J., Military Theory (1): Introduction. AOAS Lesson No. 10. Diagram was developed partly from discussions in class and readings on complexity theory. Fort Leavenworth, Kansas. 7 August 1997.

Schneider, James J. Military Theory (5): War and Grand Strategy. AOAS Lesson No. 14. Developed from discussions in class. Fort Leavenworth, Kansas. 14 August 1997.

Schneider, James J., Military Theory (27): The Future of Military Operations 1. AOAS Lesson No. 53. Developed from discussions in class. Fort Leavenworth, Kansas. 6 November 1997.